

**EFFECT OF INTEREST RATES SPREAD ON THE FINANCIAL PERFORMANCE
OF COMMERCIAL BANKS IN KENYA**

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DECLARATION

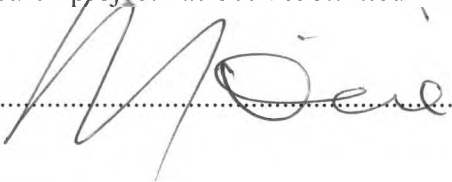
This research project is my original work and has not been presented for award of a degree in any University.

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This research project has been submitted with my approval as University supervisor.

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Finally, I would like also to thank my parents, my parents in law and my siblings, in particular Mr. Dennis Githae, for their continued moral and financial support, especially at the beginning of my studies.

DEDICATION

To my beloved parents and family.

ABSTRACT

Interest rates are fundamental to a 'capitalist society' and are normally expressed as a percentage rate over the period of one year. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation (Ngugi, 2001). Interest rate spread is defined by market microstructure characteristics of the financial sector and the policy environment. The objective of this study was to establish the effect of interest rates spread on the performance of commercial banks in Kenya.

The descriptive research design was applied. The target population of the study was all the 43 commercial banks in Kenya. The study used secondary data sources to gather information relevant in reaching at the research objectives. The secondary data was collected from the CBK offices on their annual reports on the macro-economic indicators and Kenya National Bureau of Statistics (KNBS) offices. The secondary data on financial performance of commercial banks was analyzed from 2007 to 2011. Regression analysis was used to analyze the data and find out whether exists a relationship between interest rate spread and the performance of commercial banks in Kenya.

The study found that there is strong relationship between financial performance of commercial banks with interest rate spread, default risk and inflation. The study recommends there is need for government to regulate the inflation rate in the country and interest rates as this would help commercial banks to operate in stable environment and safeguard borrowers from exploitation by commercial banks.

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ABBREVIATIONS

CBK - Central Bank of Kenya

DFI's - Development Financial Institutions

GDP - Gross Domestic Product

NPAs - Non Performing Assets

OLS - Ordinary Least Square

ROA - Return on Assets

SPSS - Statistical Package for Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets (Crowley, 2007). Interest can be thought of as "rent of money". Interest rates are fundamental to a 'capitalist society' and are normally expressed as a percentage rate over the period of one year. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation (Ngugi, 2001). Interest rate spread is defined by market microstructure characteristics of the financial sector and the policy environment. A key indicator of financial performance and efficiency is the spread between lending and deposit rates. If this spread is large, it works as an impediment to the expansion and development of financial intermediation (Njuguna, 2000).

The magnitude of interest rate spread, however, varies across the world. It is inverse to the degree of efficiency of the financial sector, which is an offshoot of a competitive environment. The nature and efficiency of the financial sectors have been found to be the major reasons behind differences in spread in countries across the world. In economies with weak financial sectors, the intermediation costs which are involved in deposit mobilization and channeling them into productive uses, are much larger (Jayaraman and Sharma, 2003). Goldstein (1996), states that the issue of exposure to both exchange rate and interest rate risk is of importance to individual investors and firms. For example, changes in exchange rates

and interest rates can affect an investor holding a portfolio consisting of securities from different countries. Changes in exchange rates should naturally impact the cash flows of a multinational firm with operations in different foreign locations, importers and exporters and even solely domestic firms. Similarly changes in interest rates will alter the firms' financing costs, affecting the amount of loan interest and principal payments and impacting cash flows of the firm.

Economic development critically hinges on patterns and levels of resource mobilization and allocation in any country. Resources are mobilized through savings which at the level of macro economy pave way for the allocation of resources for the purpose of consumption and investment. Similarly, investment depends critically on banking credit and the underlying lending system which enables the investors to borrow for the purpose of investing in real capital to enhance existing businesses or for establishment of a new business entity. In this way banking credit contributes to the generation of economic activity and eventually leads to higher national income and growth. Therefore, all economic players including households, businesses and public sector are sensitive towards the efficient flow of resources from surplus to deficit units. Analysis of resource transfer through operations of banking system, therefore, has to contend with the price structure prevailing in the credit market (Crowley, 2007). The strong correlation of banking system stability with the economic growth and development of any country has only recently been appreciated. A glance at the recent economic history reveals that weaknesses in the financial systems were the root cause of the economic woes of most of the economies. The supervisory authorities around the world are

striving to ensure safety and soundness of their respective financial systems so that they can play an active role in the economic development of their countries (Barajas et al, 1996).

1.1.1 Interest Rate

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets (Crowley, 2007). Interest can be thought of as "rent of money". Interest rates are fundamental to a 'capitalist society' and are normally expressed as a percentage rate over the period of one year. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation (Ngugi, 2001). Kenya's interest rates were fairly stable before 1990s due to a combination of price controls and banking controls in the country. Interest rate volatility quickly set in after 1992 multiparty elections. Together with runaway inflation, sharp rise in interest rates were noted in most of 1993. Treasury bills interest rates at one time reached 84.67 % in July 1993 and the interbank rate exceeded 68 percent in March 1993. The lending rate also rose steadily, exceeding 30 percent for the period October 1993 to October 1994. Lending rates remained above or close to 30 percent through September 1998, but declined in 1999. The rates peaked again at 24 percent in November 1999 and that was the highest rate that preceded a decade of low and stable interest rates. Indeed the lending rates remained within 12 and 16 percent through September 2011 causing a huge expansion in credit to the private sector, rising government debt appetite, and growth in the economy (Mbotu, 2010).

1.1.2 Interest Rate Spread

Widening interest rate spread is an indicator of the underlying weak institutional and policy set-up of the financial sector. When there are no ceilings on lending rates it is easier for banks to charge a higher risk premium and therefore to give loans to more risky projects. This increases the rate of bank insolvency as non-performing assets increase. As a result, banks attempting to defend their profit margins will be motivated to charge high interest rates on the performing loans. The impact is felt more with economic shocks, when there is no hedging of such risky loans by a well-diversified portfolio, and if investment in information capital, especially to cater for adequate analysis in monitoring and evaluation of funded projects, is yet to be carried out. On the other hand, if the interbank market is not well developed and there are restrictions on the discount window, banks will face a tight liquidity situation. If this is coupled with high reserve requirements, the banks' stability will be threatened. In addition, the presence of implicit or explicit insurance promotes adverse selection and moral hazard problems, and as capital controls are relaxed, banks are exposed to foreign exchange risk (Goldstein, 1996).

While interest rate levels and volatility have been used to assess the impact of financial liberalization on economic growth, interest rate spreads are used as a measure of the impact of financial liberalization on efficiency in the intermediation process. In addition, the spread reflects economic activity in that it is used to forecast macroeconomic variables. Inefficiency in the intermediation process is attributable to the incentive problem, which includes both information and enforcement components (Haron, 2004). A key indicator of financial performance and efficiency is the spread between deposit and lending rates. If this spread is

large it works as an impediment to the expansion and development of financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy wide effect of reducing feasible investment opportunities and thus limiting future growth potential (Ndungu & Ngugi, 2000).

1.1. 4. Determinants of Financial Performance for Financial Institutions

(Goldstein, 1996), stated that determinants of commercial banks performance can be grouped into two categories, namely internal and external factors. Internal determinants of profitability, which are within the control of bank management, can be broadly classified into two categories, i.e. financial statement variables and nonfinancial statement variables. While financial statement variables relate to the decisions which directly involve items in the balance sheet and income statement; non-financial statement variables involve factors that have no direct relation to the financial statements. The examples of non-financial variables within this category are number of branches, status of the branch (e.g. limited or full-service branch, unit branch or multiple branches), location, size of the bank and number of branches. Haron, Sudin (2004), stated that external factors are those factors that are considered to be beyond the control of the management of a bank. Among the widely discussed external variables are competition, regulation, concentration, market share, ownership, scarcity of capital, money supply, Interest rate spread, and inflation size.

1.1.5 Relationship Between Financial Performance of Commercial Banks and Interest Spread

A key indicator of financial performance and efficiency of commercial banks is the spread between lending and deposit rates. If this spread is large, it works as an impediment to the expansion and development of financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy-wide effect of reducing feasible investment opportunities and thus limiting future growth potential. It has been observed that large spreads occur in developing countries due to high operating costs, financial taxation or repression, lack of a competitive financial/banking sector and macroeconomic instability. That is, risks in the commercial banks are high.

Financial reforms and liberalization should improve efficiency in the intermediation process. This implies that the spread will decline over time as liberalization is accomplished and the financial sector develops. But in Kenya, financial liberalization seems to have led to a widening interest rate spread. The main factors that appear to propel this are distortions in the loans market, institutional impediments and the policy environment. The magnitude of interest rate spread varies across the world. It is inverse to the degree of efficiency of the financial sector, which is an offshoot of a competitive environment. The nature and efficiency of the financial sectors have been found to be the major reasons behind differences in spread in countries across the world. In economies with weak financial sectors, the intermediation costs which are involved in deposit mobilization and channeling them into productive uses, are much larger (Jayaraman and Sharma, 2003).

1.2 Statement of the Problem

It has been observed that large spreads occur in developing countries due to high operating costs, financial taxation or repression, lack of a competitive financial/banking sector and macroeconomic instability. Financial reforms and liberalization should improve efficiency in the intermediation process. This implies that the spread will decline over time as liberalization is accomplished and the financial sector develops. But in Kenya, financial liberalization seems to have led to a widening interest rate spread, (Central Bank of Kenya, 2011).

A number of country-specific studies also provide evidence of sluggish pass-through from market rates into bank rates when competition is weak. For example, Heffernan (1997) finds that British banks' interest rate adjustment is compatible with imperfect competition whereas Weth (2002), by using various proxies for bank market power, provides evidence of sluggish and asymmetric pass-through among German banks. DeGraeve et al. (2004) estimate the determinants of the interest rate-pass through on Belgian banks and find that banks with more market power pursue a less competitive pricing policy. This study thus seeks to analyse the effect of interest rates spread on the performance of commercial banks. Studies in the area have focused mainly on developed economies therefore creating a knowledge gap on developing economies and interest spread, Maudos et al (2004) analyzed interest margins in the principal European banking countries over the period 1993–2000 by considering banks as utility maximizers bearing operating costs. They found that factors that explain interest margins are the competitive condition of the market, interest rate risk, credit risk, operating expenses, and bank risk aversion among others.

Keeton and Morris (1987) undertook a study on why banks' loan losses differ. They examined the losses by 2,470 insured commercial banks in the United States (US) over the 1979-85. Using NPAs net of charge-offs as the primary measure of loan losses, Keeton and Morris (1987) shows that local economic conditions along with the poor performance of certain sectors explain the variation in loan losses recorded by the banks. The study also reports that commercial banks with greater risk appetite tend to record higher losses. Mbotu (2010) did a study on the Impact of Central bank rate on commercial banks' lending rates. All these studies have not reflected the effect of interest rate spread on commercial banks performance. It's against this background that the researcher intends to undertake a study on effect of interest rates spread on the financial performance of commercial banks in Kenya.

1.3 Objective of the Study

The objective of this study is to establish the effect of interest rates spread on the performance of commercial banks in Kenya.

1.4 Value of the study

1.4.1 Banking Industry

The findings of this study will be of interest to the management of the commercial banks who will be able to determine the policies of interest rate spread that should be favourable to the commercial banks and liaise with government for the better performance of the economy.

1.4.2 Government

The study will be of great importance to Government agencies like central bank and ministry of finance in its bid to make policies relating to interest rates.

1.4.3 Researchers

Scholars and academicians also may wish to use the findings of this study as a basis for further research on this subject.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical review

Two theoretical approaches exist in the literature, the “monopoly models” approach advocated for by Klein (1971), and the two-step approach by Ho & Saunders, 1981 (Da Silva et al ,undated). Under the monopoly models approach a bank is viewed as a firm whose main business is to produce deposits and loan services. The production function of the bank is represented by a cost function, $C(D, L)$, where D stands for deposits and L stands for loans. The market for deposits and loans is assumed to be characterized by monopolistic or imperfect competition. Thus, the bank has monopolistic power in at least one of the markets, where it behaves as a price setter. It is believed that the monopolistic power of the firm affects its business operations. Consequently, this monopolistic power manifests itself in interest spreads. The bank, in this case, is able to charge a price higher than its marginal cost.

The Ho & Saunders (1981), approach suggest that macroeconomic variables are important determinants of interest spread. As shown above, a bank faces an interest risk on loans in the inter-bank market. The volatility in interest rates charged on loans in the inter-bank market is a direct reflection of a country’s macroeconomic stability. The monopoly models and Ho & Saunders (1981), approaches suggests that interest spreads are influenced by a range of bank-specific, industry-specific and macroeconomic variables, such as operating costs, credit risk, the market structure, the size of the deposit and credit operations of a bank, the interest rate, inflation rate and exchange rate. Thus, the less stable a country’s economy is or the greater

the variation in inflation rate and exchange rate the greater will be the resulting volatility of the basic interest rate, and consequently the greater the interest spread (Ho & Saunders, 1981).

Developing countries financial sectors were said to be characterized by unsound financial institutions with the absence of prudent regulations and supervision; uncompetitive financial markets with a few commercial banks dominating the sector; the existence of informal financing; and segmented financial institutions in terms of activities and economic sectors, sources of funding for institutions and type of assets to hold. Other characteristics are statutory interest rate ceilings, where interest rate levels were set administratively; accommodation of government borrowing; and weak monetary controls. In these systems the central bank typically has limited control on the sector, serving to finance government deficits, conduct foreign exchange transactions for the government and ensure that institutions do not enter into liquidity problems. Due to these factors, then, developing countries' financial systems were said to be financially repressed. The concept of financial repression was popularized by McKinnon (1973) and Shaw (1973), to describe financial systems with policies that distort domestic financial markets, including inflexible interest rates, higher reserve requirements (that allowed the government to borrow at low costs) and credit controls. These authors argued that a repressed financial system interferes with economic development as the intermediaries are not well developed for mobilization of savings, while the allocation of financial resources among competing uses is inefficient.

Developing countries operated with low interest rates aimed at increasing the level of investment, improving the allocation of resources among sectors and keeping financial costs down to avoid possible inflationary pressures. This supported the liquidity theory of interest in which Keynes argued for low interest rates to speed up the accumulation of capital. However, McKinnon (1973) and Shaw (1973) argued that real interest rates kept below the market equilibrium increase the demand for investment but not the actual investment. Low interest rates are insufficient to generate savings, and even reduce savings especially if substitution effects dominate the income effect for households. On the other hand, low rates raise the expected profitability of investment projects by raising the net present value of future earnings from the project. The net effect is to raise the demand for funds without raising the supply of financial resources. The results are rationing of credit among the competing investors based on non-price methods as credit is allocated according to the quality of collateral, client's bargaining skills, political leverage and loan size rather than the expected productivity of the investment.

Thus, negative real deposit rates and lending rates adversely affect development, discouraging the accumulation of wealth in the financial form and limiting the rate of capital accumulation. With negative bank loan rates investors find it better to borrow and buy inflation hedges instead of investing, thus reducing the level of investment. Administratively set interest rates are not only low but lack flexibility. They make it impossible for financial institutions to adjust their lending rates to the changing cost of funding or to narrow their profit margins. This makes it impossible for many lending institutions to absorb any loss that may be incurred in lending to higher risk projects.

Consequently, financial systems in developing countries concentrated on low-risk established projects, leaving the high risk projects with no funding. The DFIs, meant to provide long-term credit, are faced with portfolio problems attributable to weak accountability and poor financial practices and the capital markets — the alternative source of long-term funding — is at an infancy stage and trading largely in existing shares. This then limits the alternative sourcing of investment funds.

Administratively set interest rates also expose depositors to low non-negotiable rates, and they cannot benefit from higher rates offered by banks competing for deposits in a free market. Banks are left with no incentive to mobilize deposits or compete for loan customers. At the same time low interest rates inhibit entry of new financial institutions, stifling competition in the banking sector, and cause capital flight leading to foreign exchange shortages if international capital controls are relatively ineffective at preventing capital outflows. The empirical significance of all these effects depends on the degree to which controls force interest rates to deviate from their equilibrium value. In particular the effects are likely to be strongest when there is a low nominal interest rate ceiling combined with a high inflation rate, resulting in highly negative real interest rates (Crowley, 2007).

It is advocated that financially repressed systems abolish or relax interest rate controls; eliminate or greatly reduce controls on allocation of credit; switch to market based indirect methods of money supply control; and develop money and capital markets. Flexible interest rates promote genuine competition, with savers and borrowers getting the best return. They

allow more diversity in interest rate structure where institutions are able to consider lending proposals involving higher levels of risk since they are able to charge higher rates reflecting the risk component. Flexible rates also mean that borrowers without access to loans can get credit, and credit increasingly flows toward more profitable projects, ensuring economic growth. Flexible interest rates allow credit control, which though sometimes effective and useful in the short run, is difficult to design and administer in an efficient and equitable way.

Financial liberalization theory, then, argues for improved economic growth through financial sector reforms. The supporters of financial liberalization base their arguments on the works of McKinnon and Shaw. According to the theory, positive real deposit rates raise the saving rate, thus increasing the flow of financial savings. Developing countries with repressed financial systems thus mounted financial reforms aiming at: mobilization of financial resources with increased amounts of domestic savings channeled through the formal financial sector, reducing the role of direct controls in determining the allocation of credit, increasing reliance on market based system of monetary control and broadening the range of domestic sources of finance.

2.2 Interest Rate Spread

There is exhaustive literature on the determinants of interest rate spreads both in developed and developing economies. The underlying bank specific and economic variables depict similar behavior across all developing countries and our set of variables and econometric methodology emanates from similar research with few innovations. Maudos and Solis (2009) investigated the determinants of net interest income in Mexican banking sector for the period between 1993 and 2005. Their sample constituted of 43 commercial banks with 289 annual

observations of an unbalanced panel data. They observed high interest margins for Mexico, of approximately 5%, vis-a-vis international standards. They considered various explanatory factors to explain the behavior of interest rate spreads. These included operating costs, volatility of interest rates, implicit interest payments, quality of management, non-interest income, credit risk, degree of risk aversion, market risk, transaction size, liquidity, cost to gross income, GDP growth and inflation rate.

Norris and Floerkemeir (2007) used bank level panel dataset for Armenia to examine the factors explaining interest rate spreads and margins from 2002 to 2006. They employed a variety of bank specific and macro variables including overhead costs, bank size, non-interest income, capital adequacy, return on assets, liquidity, deposit market share, foreign bank participation, real GDP growth, inflation, money market rate and change in the nominal exchange rate. Using both pooled OLS and fixed effect regression they concluded that bank specific factors of size, liquidity, ROA, market concentration, market power explain a large proportion of interest rate spread. Khawaja and Din (2007) investigated the determinants of interest rate spreads in Pakistan using panel data of 29 banks from 1998 to 2005. They used industry variables of concentration and deposit inelasticity (measured as interest rate insensitive current and saving deposits) and firm variables of market share, liquidity, administrative costs, asset quality and macroeconomic variables of real output, inflation and real interest rates. They concluded that inelasticity of deposit supply was the major determinant of interest rate spread. The researcher felt that the results of this study are unique to the sample period and we include a larger number of variables to analyze if in post

transition period, the firm specific and macroeconomic variables better explain the cross bank variations in spreads.

2.3 Determination of Interest Rate Spread

According to Congressional Budget office (2000), modeling in full the way spreads between interest rates on three-month Treasury bills and rates for the alternative instruments widen and narrow over time would require an almost limitless set of determining factors. But fewer variables, four of which are among the most important, can explain the broad aspects of the spreads' movements:

2.3.1 Levels of Risk

Risk refers to the chance that something unfavorable may happen. If you go skydiving, the risks you assume are obvious. When you purchase a financial asset, say by lending funds to a corporation by purchasing one of its bonds, you also take a risk--a financial risk. Something unfavorable could happen to your money, you could lose all of it if the company issuing the security goes bankrupt, or you could lose part of it if the asset's price goes down and you have to sell before maturity (Gheva,1992). Different people are willing to accept different levels of risk. Some people will not go skydiving under any circumstances, while others will go at the drop of a hat. In credit transactions, too, people are willing to accept different levels of risk. However, most people risk averse; that is, they prefer to increase risks with their money unless they receive increased compensation.

(http://chicagofed.org/consumer_information/points_of_interest)

2.3.2 Default Risk

For any number of reasons, even the most well-intentioned borrowers may not be able to make interest payments or repay borrowed funds on time. If borrowers do not make timely payments, they are said to have defaulted on loans. When borrowers do not make interest payments, lenders' returns (the interest they receive) are reduced or wiped out completely; when borrowers do not repay all or part of the principal, the lenders' return is actually negative. All loans are subject to default risk since borrowers may die, go bankrupt, or be faced with unforeseen problems that prevent payments. Of course, default risk varies with different people and companies; nevertheless, no one is free from risk of default (Hanson, 1986).

While investors/lenders accept this risk when they loan funds, they prefer to reduce the risk. As a result, many borrowers are compelled to secure their loans; meaning, they give the lender some assurances against default. Frequently, these assurances are in the form of collateral, some physical object the lender can possess and then sell in the event of default. For automobile loans, for example, the car usually serves as collateral. Other assurances could include a cosigner, another person willing to make payment if the original borrower defaults. Generally speaking, because secured loans are comparatively less risky, they carry a lower interest rate than unsecured loans (Gheva, 1992). As a borrower, the government offers firm assurances against default. As a result of the power to tax and authority to coin money, payments of principal and interest on loans made to or securities purchased from the government are, for all practical purposes, never in doubt, making government securities virtually default-risk free. Since investors tend to be risk averse and government securities

are all but free from default risk, they generally carry a lower interest rate than securities from corporations (Haron, 2004).

Similarly, other types of borrowers represent different levels of risk to the lender. In each case, the lender needs to evaluate what are commonly called "the three Cs" of character, capital, and capacity. Character represents the borrower's history with previous loans. A history containing bankruptcies, repossessions, consistently late or missed payments, and court judgments may indicate a higher risk potential for the lender. Capital represents current financial condition. Is the borrower currently debt-free, or relatively so in comparison with assets? They may represent a party with "thrifty" habits, who can take on additional debt without imposing an undue burden on other assets. Capacity represents the future ability to service the loan, i.e., make principal and interest payments. Income, job stability, regular promotions, and raises are all indicators to be considered (Montiel, 1995).

In addition to default risk, liquidity risk affects interest rates. If a security can be quickly sold at close to its original purchase price, it is highly liquid; meaning, it is less costly to convert into money than one that cannot be sold at a price close to its purchase price. Therefore, it is less risky than one with a wide spread between its purchase price and its selling price. Credit transactions usually involve lending/borrowing funds for an agreed upon period of time. At the end of that time the loan is said to have matured and must be repaid. The length of maturity is a source of another kind of risk-maturity risk. Long-term securities are subject to more risk than short-term securities because the future is uncertain and more problems can

arise the longer the security is outstanding. These greater risks usually, but not always, result in higher rates for long-term securities than for short-term securities (Goldstein, 1996).

2.3.3 Market structure

Financial liberalization calls for the abolition of interest-rate ceilings and the promotion of free competition among financial intermediaries. It emphasizes reducing government ownership and control and the establishment of a strong regulatory and legal framework to facilitate competitiveness. Although competitiveness does not imply the non-existence of interest rate spread (Ho and Saunders 1981), the size of the spread is much higher with a non-competitive market structure. In addition, Cho (1988) argues that financial liberalization overlooks endogenous constraints to efficient allocation of resources by the banking sector where, in the absence of a well-functioning equities market, efficient allocation of capital is not realized even with financial liberalization. Fry (1995) points out that, in the absence of direct financial, equity and bonds markets, financial institutions absorb too much risk and business enterprises rely excessively on debt finance.

Thus, interest rate spread will widen reflecting the substitution between debt and equity financing (Demirguc-Kunt and Huizinga 1998). However, as the equity market expands offering competitive returns the risk absorbed by the banking sector falls, and as they increase deposit rate to compete for funds from the public, the interest rate margin declines. Thus, Fry (1995) argued that in an oligopolistic banking system there is a need for competition from the direct financial market. The question that remains is how competition can be introduced into the banking system. This is an institutional as well as a policy

question. Previous empirical works show support for market power in the loans market, indicating a non-competitive environment. For example, Ho and Saunders (1981), approximating market power with bank size, found a significant difference in spread between large and small banks, where smaller banks had higher spreads than the larger banks. The results of Barajas et al. (1996) and Elkayam (1996) also supported the hypothesis of non-competitiveness in the credit market. Elkayam (1996) observed that in a competitive banking system interest rate spread is driven solely by central bank variables (including the discount window loans, reserve requirement and interest on liquid assets deposited with the central bank). However, under a monopolistic, or oligopolistic, structure interest rate spread is also affected by the responsiveness of demand for credit and deposits to interest rate. This study finds that an increase in money supply under interest elastic demand reduces the spread more drastically in a monopolistic than in a competitive market.

2.3.4 Legal and Regulatory Framework

Functional efficiency is influenced by the regulatory and legal framework. The regulatory framework incorporates regulations by the monetary authority aimed at achieving financial stability. Thus, in the liberalization process a major goal is to achieve financial stability by creating a strong regulatory framework. (Fry, M. 1995). In their study, Demirguc-Kunt and Huizinga (1997) found that better contract enforcement, efficiency of the legal system and lack of corruption are associated with lower realized interest margins. This is because they reduce the risk premium attached to the bank lending rate. As Fry (1995) showed, liberalization in the presence of inadequate prudential supervision and regulation magnifies the impact of exogenous shocks by accommodating distress borrowing. However, it is noted that in developing countries regulations tend to be on paper but in practice are not enforced

consistently and effectively. Thus, expectations for a competitive banking sector and contract enforcement have become elusive.

Deposit insurance schemes are instituted to protect the depositors and maintain stability of the financial sector. However, insurance (explicit or implicit) promotes moral hazard and adverse selection problems. Fry (1995) argues that adverse selection arises with a deposit insurance scheme, especially if accompanied by high macro instability. In addition, banks seldom seek to reduce adverse selection in credit rationing, especially if there is a positive relationship between instability and returns on alternative bank financed projects. With protection for depositors provided, banks choose riskier lending strategies, especially if macro instability produces.

2.4 Empirical Review

In terms of the banking-industry specific factors, Khawaja and Din (2007), studied the determinants of interest rate spread in Pakistan using panel data of 29 commercial banks. Khawaja and Din (2007) argues that an oligopolistic market structure tends to widen interest rate spreads. An oligopolistic market structure is a market in which there are fewer firms which provide similar products or services. It is argued that concentration in oligopolistic markets is usually high, thus, encouraging collusion among the banks in the market and due to the market power in such a market and where banks are free to charge their own rates; the banks tend to set higher lending rates and lower deposit rates. Other market specific determinants include ownership structure and control of banks, policy regime (whether interest rates are controlled or not), the market share of individual banks, and diversity of

financial assets (Ngugi, 2001). Postulating an error correction model and using monthly data from 1991– 99, Ngugi (2001) found that for Kenya, rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediation costs explained interest rate spreads.

Ngugi (2001) analyzed the interest rates spread in Kenya from 1970 to 1999 and found that interest rate spread increased because of yet-to-be gained efficiency and high intermediation costs. Increase in spread in the post-liberalization period was attributed to the failure to meet the prerequisites for successful financial reforms, the lag in adopting indirect monetary policy tools and reforming the legal system and banks' efforts to maintain threatened profit margins from increasing credit risk as the proportion of non-performing assets. She attributed the high non-performing assets to poor business environment and distress borrowing, owing to the lack of alternative sourcing for credit when banks increased the lending rate, and the weak legal system in enforcement of financial contracts. According to her findings, fiscal policy actions saw an increase in treasury bill rates and high inflationary pressure that called for tightening of monetary policy. As a result, banks increased their lending rates but were reluctant to reduce the lending rate when the treasury bill rate came down because of the declining income from assets. They responded by reducing the deposit rate, thus maintaining a wider margin as they left the lending rate at a higher level. Postulating an error correction model and using monthly data for the study period, Ngugi (2001) found that for Kenya, rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediation costs explained interest rate spreads.

Studies on rate spreads in other parts of sub-Saharan Africa include Chirwa and Mlachila (2004) who investigated the impact of financial sector reforms on interest rate spreads in the commercial banking system in Malawi. Their model specified interest rate spreads as a function of bank characteristics, market characteristics, operational expenses, the regulatory environment, and the Malawian macroeconomic environment. They used monthly panel data for five Malawian commercial banks for the period 1989–99. Panel regression results suggest that the observed wide spreads can be attributed to high monopoly power, high reserve requirements, high central bank discount rates, and high inflation.

Outside Africa, Maudos and Fernandez de Guevara (2004) analyzed interest margins in the principal European banking countries over the period 1993–2000 by considering banks as utility maximizers bearing operating costs. They found that factors that explain interest margins are the competitive condition of the market, interest rate risk, credit risk, operating expenses, and bank risk aversion among others. Keeton and Morris (1987) undertook a study on why banks' loan losses differ. They examined the losses by 2,470 insured commercial banks in the United States (US) over the 1979–85. Using NPAs net of charge-offs as the primary measure of loan losses, Keeton and Morris (1987) shows that local economic conditions along with the poor performance of certain sectors explain the variation in loan losses recorded by the banks.

2.5 Summary and Conclusions

While quite a number of studies have investigated the effect of interest rate spread, most of these studies have been done in developed countries with few being done in developing countries. In Kenya, Ngugi (2001) conducting a study on interest rate spread in Kenya found that *commercial banks incorporate charges on intermediation services offered under uncertainty, and set the interest rate levels for deposits and loans.* Other study done on interest rate spread indicated that potential saver are discouraged due to low returns on deposits and thus limits financing for potential borrowers (Ndung'u & Ngugi, 2000). These implications of banking sector inefficiency have spurred numerous debates in developing countries about the effect of banking sector interest rate spreads. Studies have shown that there is a pervasive view amongst some stakeholders that high interest rate spreads are caused by the internal characteristics of the banks themselves, such as their tendency to maximize profits in an oligopolistic market, while many others argue that the spreads are imposed by the macroeconomic, regulatory and institutional environment in which banks operate (Fofack, 2005). Gitonga (2010) did a study on the Relationship between Interest Rate risk management and profitability of commercial banks in Kenya. Mwathi, (2009) undertook a study on relationship between commercial banks financial performance and their ownership structure. Charles (2009) also did a survey of critical success factors (scf) adopted by commercial banks in Kenya. These debates can only be resolved through objective, quantitative analysis of the effects of interest rate spreads on commercial banks in developing countries. This study therefore seeks to fill this gap by establishing the effects of interest spread on the financial performance of commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter indicates the methodology to be employed in this research. The methodology includes the population and sample determination. It also discusses the data collection and data analysis methods.

3.1 Research Design

The descriptive research design will be applied. Descriptive research, describes data and characteristics about the population or phenomenon being studied. According to Coopers and Schindler (2004) descriptive studies are more formalized and typically structured with clearly stated hypotheses or investigative questions.

3.2 Target Population

The target population of the study will be all the commercial banks in Kenya. According to Central Bank of Kenya, there are 43 commercial banks. All the commercial banks in Kenya will be units of observation which will be used by the study in the analysis.

3.3 Data Collection

The study will use secondary data sources to gather information relevant in reaching at the research objectives. The secondary data will be collected from the CBK offices on their annual reports on the macro-economic indicators and Kenya National Bureau of Statistics (KNBS) offices. The secondary data on financial performance of commercial banks will be analyzed from 2007 to 2011. The researcher considers the period adequate to provide reliable information.

3.4 Data Analysis

The data obtained will be analyzed using Statistical Package for Social Science (SPSS). Quantitative analysis will involve the use of means, relative frequencies, mode, median and standard deviation Kothari (2004).

Regression analysis will be used to analyze the data and find out whether exists a relationship between interest rate spread and the performance of commercial banks in Kenya. In this research a dynamic econometric model will be employed to assess the joint relationship between interest rate spread and financial performance of commercial banks. To investigate this relationship the study will formulate multiple regression equation. This approach provides an opportunity to study long run determinants and short run dynamics in a unified framework. As the above empirical evidence indicates, it seems plausible that the direction of causality is bi-directional and a multivariate co-integration approach allows treatment of variables as endogenous in the long-run. An equation describing the relationship between interest rate spread and the performance of commercial banks is considered.

$$P = \beta_0 + \beta_1 I + \beta_2 If + \beta_3 D + \alpha$$

In the equation:

P = Financial performance of commercial banks in Kenya which is portrayed by the return on assets of commercial banks.

I = Interest rate spread which is expressed as interest yield on earning assets minus interest rates paid on borrowed funds. The lending rate will be calculated as base lending rate for

the individual commercial bank plus an average of its various mark ups applied for different borrowers (Individuals, corporate, various sectors of the economy).

The borrowing rate which will be utilized for the purpose of this study is the average of interest rate given for fixed deposits, savings accounts, interest paid to finance lenders and the CBK lending rates.

If = Inflation is an increase in the volume of money and credit relative to available goods and services that causes the general level of prices of goods and services to rise in an economy over a period of time. Inflation values over the period under study will be obtained from Kenya National Bureau of statistics.

D = Default risk, is the uncertainty surrounding affirms ability to service its debts and obligations, which will be measured by non-performing loans at commercial banks as a percentage of its loan book.

α = is the error.

CHAPTER FOUR:

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the research findings to determine the relationship between size and profitability of commercial banks in Kenya. The study was conducted on 43 commercial banks in Kenya in order to establish the to establish the effect of interest rates spread on the performance of commercial banks in Kenya for the period of five years (2007 to 2011).

4.2 Regression Analysis

In this study, a multiple regression analysis was conducted to determine the relationship between size and profitability of commercial banks in Kenya. The research used statistical package for social sciences (SPSS V 20) to code, enter and compute the measurements of the multiple regressions

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.991(a)	.982	.945	.19440

Adjusted R^2 is called the coefficient of determination it tell us how financial performance of commercial banks in Kenya varied with interest rate spread, inflation and default risk. From data, the value of adjusted R^2 is 0.945. This implies that, there was a variation of 94.5% of financial performance of commercial banks varied with interest rate spread , inflation and

default risk at 95% confidence interval, the study also found that there is a strong positive relationship between the study variables as shown by strong correlation co-efficient of 0.991

Table 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.744	2	0.372	3.131	.048 ^b
	Residual	13.16	40	0.329		
	Total	13.904	42			

From the ANOVA statics in table above, the processed data, which is the population parameters, had a significance level of 4.8% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5% , this shows that the overall model was significant.

Table 3: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	.298	.453		2.165	.006
	Interest spread	-.237	.160	-.198	-1.479	.012
	Inflation	-.231	.126	-.245	-1.834	.001
	Default risk	-.281	.114	-.031	-.246	.016

The established regression equation was

$$Y = 0.298 - 0.237 X_1 - 0.231 X_2 - 0.281 X_3$$

From the above regression model, holding interest spread, inflation and default risk to a constant zero financial performance of commercial banks would be 0.298, its established that a unit increase in interest rate spread would cause an increase in financial performance of commercial banks by a factor of 0.237, a unit increase in number interest rate spread would cause an decrease financial performance of commercial banks by a factor of 0.231, also a unit increase in default risk would cause an decrease in financial performance of commercial banks by a factor of 0.281. This clearly shows that there is a positive relationship between financial performance of commercial banks with interest rate spread and a negative relationship between financial performance of commercial banks and default risk and inflation. At 5% level of significance and 95% level of confidence, default risk had a 0.016 level of significance, interest spread rate had a 0.012 level of significance while inflation showed 0.001 level of significance hence the most significant factor is inflation. Overall inflation had the greatest effect on the performance of commercial banks in Kenya, followed by interest spread while default risk had the least effect to the performance of commercial banks in Kenya. All the variables were significant ($p < 0.05$).

4.3 Summary and Interpretation of Findings

The study found that there is strong relationship between financial performance of commercial banks with interest rate spread, the study further revealed that there was greater variation on performance of commercial banks as results of change in interest rate spread,

default risk and inflation, the study further revealed that there was a negative relationship between performance of commercial banks, interest rate spread, defaults risk and inflation. The study found that there is strong relationship between financial performance of commercial banks with interest rate spread, the study further revealed that there was greater variation on performance of commercial banks as results of change in interest rate spread, default risk and inflation, the study further revealed that there was a negative relationship between performance of commercial banks and interest rate spread, defaults risk and inflation. Crowley, (2007) states that interest can be thought of as "rent of money". Interest rates are fundamental to a 'capitalist society' and are normally expressed as a percentage rate over the period of one year. Interest rate as a price of money reflects market information regarding expected change in the purchasing power of money or future inflation.

Crowley, (2007) argues that widening interest rate spread is an indicator of the underlying weak institutional and policy set-up of the financial sector. When there are no ceilings on lending rates it is easier for banks to charge a higher risk premium and therefore to give loans to more risky projects. This increases the rate of bank insolvency as non-performing assets increase. As a result, banks attempting to defend their profit margins will be motivated to charge high interest rates on the performing loans. The impact is felt more with economic shocks, when there is no hedging of such risky loans by a well-diversified portfolio, and if investment in information capital, especially to cater for adequate analysis in monitoring and evaluation of funded projects, is yet to be carried out. Goldstein, (1996) on the other hand states that if the interbank market is not well developed and there are restrictions on the discount window, banks will face a tight liquidity situation. If this is coupled with high

reserve requirements, the banks' stability will be threatened. In addition, the presence of implicit or explicit insurance promotes adverse selection and moral hazard problems, and as capital controls are relaxed, banks are exposed to foreign exchange risk.

Haron, (2004) states that while interest rate levels and volatility have been used to assess the impact of financial liberalization on economic growth, interest rate spreads are used as a measure of the impact of financial liberalization on efficiency in the intermediation process. In addition, the spread reflects economic activity in that it is used to forecast macroeconomic variables. Inefficiency in the intermediation process is attributable to the incentive problem, which includes both information and enforcement components. Ndungu & Ngugi, (2000) indicates that a key indicator of financial performance and efficiency is the spread between deposit and lending rates. If this spread is large it works as an impediment to the expansion and development of financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy wide effect of reducing feasible investment opportunities and thus limiting future growth potential.

Goldstein, 1996), stated that determinants of commercial banks performance are in two categories, namely internal and external factors. Internal determinants of profitability, which are within the control of bank management, can be broadly classified into two categories, i.e. financial statement variables and nonfinancial statement variables. While financial statement variables relate to the decisions which directly involve items in the balance sheet and income statement; non-financial statement variables involve factors that have no direct relation to the

financial statements. The examples of non-financial variables within this category are number of branches, status of the branch, location, size of the bank and number of branches. Haron, Sudin (2004), stated that external factors are those factors that are considered to be beyond the control of the management of a bank. Among the widely discussed external variables are competition, regulation, concentration, market share, ownership, scarcity of capital, money supply, Interest rate spread, and inflation size.

Haron, Sudin (2004), states that a key indicator of financial performance and efficiency of commercial banks is the spread between lending and deposit rates. If this spread is large, it works as an impediment to the expansion and development of financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy-wide effect of reducing feasible investment opportunities and thus limiting future growth potential. It has been observed that large spreads occur in developing countries due to high operating costs, financial taxation or repression, lack of a competitive financial/banking sector and macroeconomic instability. That is, risks in the commercial banks are high.

Jayaraman and Sharma, (2003) found that the magnitude of interest rate spread varies across the world. It is inverse to the degree of efficiency of the financial sector, which is an offshoot of a competitive environment. The nature and efficiency of the financial sectors have been found to be the major reasons behind differences in spread in countries across the world. In economies with weak financial sectors, the intermediation costs which are involved in deposit mobilization and channeling them into productive uses, are much larger.

Khawaja and Din (2007) concluded that inelasticity of deposit supply was the major determinant of interest rate spread. According to Congressional Budget office (2000), modeling in full the way spreads between interest rates on three-month Treasury bills and rates for the alternative instruments widen and narrow over time would require an almost limitless set of determining factors. Fry (1995) argued that in an oligopolistic banking system there is a need for competition from the direct financial market. Previous empirical works show support for market power in the loans market, indicating a non-competitive environment. Ho and Saunders (1981), approximating market power with bank size, found a significant difference in spread between large and small banks, where smaller banks had higher spreads than the larger banks. The results of Barajas et al. (1996) and Elkayam (1996) also supported the hypothesis of non-competitiveness in the credit market. Elkayam (1996) observed that in a competitive banking system interest rate spread is driven solely by central bank variables. However, under a monopolistic, or oligopolistic, structure interest rate spread is also affected by the responsiveness of demand for credit and deposits to interest rate. This study finds that an increase in money supply under interest elastic demand reduces the spread more drastically in a monopolistic than in a competitive market.

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Finding

From the finding on the regression analysis, the study found that the value of adjusted R squared was high an indication that greater changes in financial performance of commercial banks in Kenya could be accounted due to changes in interest rate spread , inflation and default risk. The study further revealed that there was strong relationship between financial performance of commercial banks in Kenya and interest rate spread inflation and default risk as indicated by strong correlation co-efficient. The study further established the following regression equation;

$$Y = 0.298 - 0.237 X_1 - 0.231 X_2 - 0.281 X_3$$

From the regression equation the study revealed that there was a negative relationship between financial performance of commercial banks with interest rate spread, default risk and inflation. The study further revealed that the P-value were less than 0.05 in all the variables, which shows that all the independent variables were statistically significant and thus in a position to make conclusion for the study.

The study found that inelasticity of deposit supply was the major determinant of interest rate spread. Modeling in full the way spreads between interest rates on three-month Treasury bills and rates for the alternative instruments widen and narrow over time would require an almost limitless set of determining factors. The study revealed that in an oligopolistic banking system there is a need for competition from the direct financial market. Market power in the loans market, indicating a non-competitive environment. The study revealed that there is a

significant difference in spread between large and small banks, where smaller banks had higher spreads than the larger banks. This study finds that an increase in money supply under interest elastic demand reduces the spread more drastically in a monopolistic than in a competitive market.

5.2 Conclusion

The study found that there is strong relationship between financial performance of commercial banks with interest rate spread, the study further revealed that there was greater variation on performance of commercial banks as results of change in interest rate spread, default risk and inflation, the study further revealed that there was a negative relationship between performance of commercial, interest spread and defaults risk and inflation. The study found that inelasticity of deposit supply was the major determinant of interest rate spread. Modeling in full the way spreads between interest rates on three-month Treasury bills and rates for the alternative instruments widen and narrow over time would require an almost limitless set of determining factors.

The study revealed that in an oligopolistic banking system there is a need for competition from the direct financial market. The study revealed that there is a significant difference in spread between large and small banks, where smaller banks had higher spreads than the larger banks. This study finds that an increase in money supply under interest elastic demand reduces the spread more drastically in a monopolistic than in a competitive market.

The study found that the key indicator of financial performance and efficiency of commercial banks is the spread between lending and deposit rates. If this spread is large, it works as an impediment to the expansion and development of financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy-wide effect of reducing feasible investment opportunities and thus limiting future growth potential. It has been observed that large spreads occur in developing countries due to high operating costs, financial taxation or

repression, lack of a competitive financial/banking sector and macroeconomic instability. That is, risks in the commercial banks are high. The study revealed that the magnitude of interest rate spread varies and it is inverse to the degree of efficiency of the financial sector, which is an offshoot of a competitive environment. The nature and efficiency of the financial sectors is found to be the major reasons behind differences in spread.

5.3 Policy Implication

From the findings and conclusion it was found that there is need for management of commercial banks in Kenya to increase their interest rate spread as this would positively influence the financial performance of commercial bank in Kenya.

There is need for government to regulate the inflation rate in the country as this would help commercial banks to operate in stable environment; the study further recommends that there is need for commercial banks to regulate their lending as the default risk was found to negatively influence financial performance of commercial banks.

Vibrant financial institution are good for economic growth of ant country, therefore there is need for the government through central banks should increase the base interest rate of lending's to commercial banks to a point that is favorable for growth of the economy and a point that it will help in reducing the inflation rate as it was found that inflation negatively affects the performance of commercial banks.

There is need for the various players in the commercial banks, to enhance the credit referencing bureaus as this will enhance credit information sharing among commercial banks

thus reducing the number of non-performing loan as well as default risk, this will help commercial banks reduce the credit risk as they improve their performance .

5.4 Limitation of the study

In attaining its objective the study was limited to 43 commercial banks in Kenya. Micro finance institutions were excluded since their operation is different from the one of commercial banks. The study could not therefore incorporate the impact on these of companies.

Secondary data was collected from the firm financial reports. The study was also limited to the degree of precision of the data obtained from the secondary source. While the data was verifiable since it came from the Central Bank publications, it nonetheless could still be prone to these shortcomings.

The study was limited to establishing the effect of interest rates spread on the performance of commercial banks in Kenya.

The study was based on a five year study period from the year 2007 to 2011. A longer duration of the study will have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problem.

5.5 Suggestions for Further Studies

The study sought to determine the effect of interest rates spread on the performance of commercial banks in Kenya. There is need for a study to be conducted to determine the

relationship between non-performing loans and performance of commercial banks as it was found that default risk negatively affects the performance of commercial banks.

From the findings and conclusion, the study recommends an in-depth study to be carried out on the relationship between increase in interest rate and performance of commercial banks in Kenya.

Given the arguments that inflation rate is affected by economic growth of the country, there is need for a study to be conducted to establish the relationship between performances of commercial banks and economic growth.

In order to better the effects of credit information sharing on default risk, there is need to a study to be carried out to determine the impact of credit information sharing on defaults in commercial banks, this will assist in commercial banks reduce the number of non-performing loan and also reduce the default risk.

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Appendix I: Data

Table 4: Table of Year 2007

BANK	ROA	INTEREST RATE	DEFAULT RISK	INFLATION
African Banking corporation limited	3.342246	14.8716	0.027113	6.264
Bank of Africa limited	5.386959	14.6675	0.113886	6.264
Bank of Baroda(k) limited	1.773464	14.7832	0.143826	6.264
Bank of India	2.139984	14.8727	0.018489	6.264
Barclays Bank of Kenya limited	9.670245	14.3262	0.12605	6.264
CFC Stanbic limited	21.61965	14.1191	0.094291	6.264
Chase Bank	7.309792	13.6623	0.077309	6.264
Citibank N. A kenya	9.349846	13.6611	0.033694	6.264
City Finance bank	6.31669	13.9013	0.271522	6.264
Cooperative Bank of Kenya	2.896913	14.055	0.187437	6.264
Commercial Bank of Africa	1.517879	14.0121	0.091045	6.264
Consolidated Bank of Kenya	2.337446	13.9109	0.137777	6.264
Credit Bank	2.775758	14.0619	0.262693	6.264
Development Bank of Kenya	4.544364	13.839	0.221103	6.264
Diamond Trust	4.959553	13.7809	0.215006	6.264
Dubai Bank	6.136452	13.3223	0.091941	6.264
Ecobank	15.17711	13.3907	0.18615	6.264
Equatorial Commercial Bank	2.307154	13.2363	0.124475	6.264
Equity Bank	5.172941	12.8706	0.341918	6.264
Fidelity Commercial Bank	1.753104	13.041	0.052665	6.264
Family Bank	2.270086	13.2858	0.123564	6.264
Fina Bank	1.59363	13.1444	0.071546	6.264
First Community Bank	2.54636	13.3766	0.10087	6.264
Guardian Bank.	1.43979	13.331	0.049319	6.264
Giro Commercial Bank	2.035905	13.5571	0.21746	6.264
Gulf African Bank	1.9541	13.6379	0.235803	6.264
Habib bank A G Zurich	1.078856	13.7805	0.081225	6.264
Habib Bank Limited	4.076334	13.7401	0.09117	6.264
Imperial Bank Limited	2.631956	13.9283	0.202	6.264
Investment and Mortgage Bank Limited	3.581474	14.0094	0.224603	6.264
Islamic Bank	1.59363	13.535	0.071546	6.264
K-REP Bank	2.54636	13.6387	0.10087	6.264
Kenya Commercial Bank Limited	1.43979	13.7152	0.049319	6.264
Middle East Bank (k) Limited	2.035905	13.7934	0.21746	6.264
National bank of kenya Limited	1.9541	13.946	0.235803	6.264
NIC Bank limited	1.078856	13.5129	0.081225	6.264
Oriental Commercial Bank Limited	4.076334	13.3278	0.09117	6.264
Paramount Universal Bank Limited	4.274013	13.2664	0.27471	6.264
Prime Bank Limited	3.086563	13.1961	0.059326	6.264
Southern Credit Banking Corporation Limited	1.69728	13.1607	0.060578	6.264
Standard Chartered Bank(k) Limited	2.896913	12.9306	0.187437	6.264
Transnational Bank Limited	1.517879	12.9688	0.091045	6.264

Victoria Commercial Bank	2.337446	12.8259	0.137777	6.264
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Table 5: Table of Year 2008

BANK	ROA	INTEREST RATE	DEFAULT RISK	INFLATION
African Banking corporation limited	4.576526	13.7783	0.015038	6.522
Bank of Africa limited	2.78161	13.4574	0.082649	6.522
Bank of Baroda(k) limited	1.077616	13.8405	0.147517	6.522
Bank of India	2.209439	14.3904	0.09124	6.522
Barclays Bank of Kenya limited	2.270086	13.8472	0.123564	6.522
CFC Stanbic limited	1.59363	13.9066	0.071546	6.522
Chase Bank	2.54636	13.4267	0.10087	6.522
Citibank N. A kenya	1.43979	13.114	0.049319	6.522
City Finance bank	2.035905	13.4626	0.21746	6.522
Cooperative Bank of Kenya	1.9541	13.2962	0.235803	6.522
Commercial Bank of Africa	4.085789	13.5322	0.070559	6.522
Consolidated Bank of Kenya	1.19208	13.4562	0.023229	6.522
Credit Bank	4.457944	13.481	0.220952	6.522
Development Bank of Kenya	1.853158	13.2553	0.124939	6.522
Diamond Trust	1.603627	13.4134	0.096149	6.522
Dubai Bank	4.327228	12.9551	0.195681	6.522
Ecobank	6.438134	13.4327	0.052354	6.522
Equatorial Commercial Bank	1.83203	13.2864	0.221639	6.522
Equity Bank	5.441962	13.2649	0.102115	6.522
Fidelity Commercial Bank	1.89076	13.3901	0.343082	6.522
Family Bank	1.048407	13.3424	0.004491	6.522
Fina Bank	1.73229	13.195	0.062547	6.522
First Community Bank	1.720851	13.3538	0.363286	6.522
Guardian Bank.	1.9541	13.2604	0.235803	6.522
Giro Commercial Bank	1.078856	13.9488	0.081225	6.522
Gulf African Bank	0.553116	14.0464	0.20744	6.522
Habib bank A G Zurich	0.843462	14.1134	0.10105	6.522
Habib Bank Limited	1.078856	13.9064	0.081225	6.522
Imperial Bank Limited	4.076334	13.9588	0.09117	6.522
Investment and Mortgage Bank Limited	1.603627	13.9403	0.096149	6.522
Islamic Bank	1.396739	13.4222	0.085078	6.522
K-REP Bank	2.383471	13.4304	0.188103	6.522
Kenya Commercial Bank Limited	1.19208	13.4782	0.023229	6.522
Middle East Bank (k) Limited	4.457944	13.7783	0.220952	6.522
National bank of kenya Limited	1.59363	14.0159	0.071546	6.522
NIC Bank limited	2.54636	13.8053	0.10087	6.522
Oriental Commercial Bank Limited	1.43979	13.2611	0.049319	6.522
Paramount Universal Bank Limited	3.086563	13.3351	0.059326	6.522
Prime Bank Limited	1.69728	13.8105	0.060578	6.522
Southern Credit Banking Corporation Limited	4.085789	13.6715	0.070559	6.522

Standard Chartered Bank(k) Limited	1.9541	13.3335	0.235803	6.522
Transnational Bank Limited	1.107913	13.5579	0.177128	6.773
Victoria Commercial Bank	3.44926	13.5029	0.152464	6.773

Table 6: Table of Year 2009

BANK	ROA	INTEREST RATE	DEFAULT RISK	INFLATION
African Banking corporation limited	2.053823	13.8095	0.021415	6.773
Bank of Africa limited	1.768245	13.54	0.054316	6.773
Bank of Baroda(k) limited	1.107913	13.8272	0.177128	6.773
Bank of India	3.44926	13.9428	0.152464	6.773
Barclays Bank of Kenya limited	1.006454	13.995	0.243782	6.773
CFC Stanbic limited	16.5386	14.0293	0.06548	6.773
Chase Bank	1.073657	13.8229	0.103788	6.773
Citibank N. A kenya	1.73229	13.1442	0.062547	6.773
City Finance bank	1.354839	12.69	0.230059	6.773
Cooperative Bank of Kenya	1.671747	12.2115	0.120268	6.773
Commercial Bank of Africa	1.653018	11.8523	0.027929	6.773
Consolidated Bank of Kenya	2.871566	10.9473	0.091371	6.773
Credit Bank	0.601306	10.8083	0.205257	6.773
Development Bank of Kenya	2.353324	11.0999	0.321619	6.773
Diamond Trust	2.4588	10.7178	0.18055	6.773
Dubai Bank	2.159961	10.7899	0.05539	6.773
Ecobank	1.549182	11.0787	0.279456	6.773
Equatorial Commercial Bank	4.977272	11.6496	0.140748	6.773
Equity Bank	1.749497	12.3041	0.378172	6.773
Fidelity Commercial Bank	0.845046	13.304	0.091824	6.773
Family Bank	14.69728	13.7411	0.060578	6.773
Fina Bank	4.085789	14.0222	0.070559	6.773
First Community Bank	1.19208	14.1257	0.023229	6.773
Guardian Bank.	4.457944	14.3076	0.220952	6.773
Giro Commercial Bank	1.853158	14.9609	0.124939	6.773
Gulf African Bank	1.603627	14.4297	0.096149	6.773
Habib bank A G Zurich	1.396739	14.9289	0.085078	6.773
Habib Bank Limited	2.383471	17.1816	0.188103	6.773
Imperial Bank Limited	2.360808	17.2697	0.285958	6.773
Investment and Mortgage Bank Limited	1.9541	17.2584	0.235803	6.773
Islamic Bank	1.078856	17.8076	0.081225	6.773
K-REP Bank	4.076334	18.5183	0.09117	6.773
Kenya Commercial Bank Limited	2.631956	18.5595	0.202	6.773
Middle East Bank (k) Limited	3.581474	18.5622	0.224603	6.773
National bank of kenya Limited	4.327228	18.8909	0.195681	6.773
NIC Bank limited	6.438134	18.5157	0.052354	6.773
Oriental Commercial Bank Limited	1.83203	18.5623	0.221639	6.773
Paramount Universal Bank Limited	2.139984	18.3161	0.018489	6.773
Prime Bank Limited	9.670245	18.4586	0.12605	6.773
Southern Credit Banking Corporation Limited	21.61965	18.7292	0.094291	6.773
Standard Chartered Bank(k) Limited	1.59363	18.8756	0.071546	6.773

Transnational Bank Limited	4.112243	18.7757	0.066938	6.839
Victoria Commercial Bank	1.720851	19.1856	0.363286	6.839

Table 7: Table of Year 2010

COMPANY	ROA	INTEREST RATE	DEFAULT RISK	INFLATION
African Banking corporation limited	2.154897	19.81	0.107072	6.839
Bank of Africa limited	10.7656	20.31	0.043347	6.839
Bank of Baroda(k) limited	1.177786	19.96	0.172983	6.839
Bank of India	4.274013	20.36	0.27471	6.839
Barclays Bank of Kenya limited	3.086563	20.41	0.059326	6.839
CFC Stanbic limited	1.69728	20.27	0.060578	6.839
Chase Bank	4.085789	20.5304	0.070559	6.839
Citibank N. A kenya	1.19208	20.3796	0.023229	6.839
City Finance bank	4.457944	20.2027	0.220952	6.839
Cooperative Bank of Kenya	1.853158	18.6699	0.124939	6.839
Commercial Bank of Africa	1.603627	14.8747	0.096149	6.839
Consolidated Bank of Kenya	1.396739	14.6429	0.085078	6.839
Credit Bank	2.383471	14.2774	0.188103	6.839
Development Bank of Kenya	2.360808	13.8873	0.285958	6.839
Diamond Trust	3.123616	13.5853	0.150707	6.839
Dubai Bank	4.112243	13.7195	0.066938	6.839
Ecobank	1.720851	13.6766	0.363286	6.839
Equatorial Commercial Bank	1.9541	13.6024	0.235803	6.839
Equity Bank	1.078856	13.6511	0.081225	6.839
Fidelity Commercial Bank	4.076334	13.9339	0.09117	6.839
Family Bank	2.631956	13.6923	0.202	6.839
Fina Bank	3.581474	13.7718	0.224603	6.839
First Community Bank	4.327228	13.6392	0.195681	6.839
Guardian Bank.	6.438134	13.8097	0.052354	6.839
Giro Commercial Bank	1.83203	13.9744	0.221639	6.839
Gulf African Bank	1.19208	14.0287	0.023229	6.839
Habib bank A G Zurich	4.457944	14.23	0.220952	6.839
Habib Bank Limited	1.853158	14.38	0.124939	6.839
Imperial Bank Limited	1.603627	14.5	0.096149	6.839
Investment and Mortgage Bank Limited	1.396739	13.5892	0.085078	6.839
Islamic Bank	2.383471	14.2532	0.188103	6.839
K-REP Bank	2.360808	14.2517	0.285958	6.839
Kenya Commercial Bank Limited	1.9541	14.1332	0.235803	6.839
Middle East Bank (k) Limited	1.078856	14.2395	0.081225	6.839
National bank of kenya Limited	1.006454	14.0253	0.243782	6.839
NIC Bank limited	16.5386	13.7576	0.06548	6.839
Oriental Commercial Bank Limited	1.073657	13.9	0.103788	6.839
Paramount Universal Bank Limited	1.73229	13.94	0.062547	6.839
Prime Bank Limited	1.354839	14.41	0.230059	6.839
Southern Credit Banking Corporation Limited	1.671747	14.13	0.120268	6.839
Standard Chartered Bank(k) Limited	1.9541	13.66	0.235803	6.839
Transnational Bank Limited	1.310527575	19.81	0.32605	7.5610
Victoria Commercial Bank	1.295686639	20.31	0.19429	7.5610

Table 8: Table of Year 2011

BANK	ROA	INTEREST RATE	DEFAULT RISK	INFLATION
African Banking corporation limited	0.9721195	19.73	0.12711	7.5610
Bank of Africa limited	0.898494783	20.13	0.21389	7.5610
Bank of Baroda(k) limited	0.565300892	20.15	0.24383	7.5610
Bank of India	0.463909011	20.3	0.36714	7.5610
Barclays Bank of Kenya limited	1.310527575	20.12	0.32605	7.5610
CFC Stanbic limited	1.295686639	20.22	0.19429	7.5610
Chase Bank	2.571487985	20.2789	0.17731	7.5610
Citibank N. A kenya	1.26340834	19.5445	0.13369	7.5610
City Finance bank	0.657525084	20.0438	0.27152	7.5610
Cooperative Bank of Kenya	2.553116482	18.5143	0.20744	7.5610
Commercial Bank of Africa	0.843464202	15.2126	0.10105	7.5610
Consolidated Bank of Kenya	1.568987513	14.7904	0.14778	7.5610
Credit Bank	0.396780769	14.3226	0.27269	7.5610
Development Bank of Kenya	1.256203909	14.1386	0.2311	7.5610
Diamond Trust	0.394569	13.9068	0.23501	7.5610
Dubai Bank	1.354839	13.8774	0.230059	7.5610
Ecobank	0.901155742	13.924	0.10194	7.5610
Equatorial Commercial Bank	2.5795542	13.9169	0.06264	7.5610
Equity Bank	2.8015819	13.922	0.18615	7.5610
Fidelity Commercial Bank	1.4780564	14.0281	0.12448	7.5610
Family Bank	0.8157474	13.8718	0.15093	7.5610
Fina Bank	4.085789	13.949	0.070559	7.5610
First Community Bank	1.19208	13.8504	0.023229	7.5610
Guardian Bank.	4.457944	13.9755	0.220952	7.5610
Giro Commercial Bank	1.853158	14.1771	0.124939	7.5610
Gulf African Bank	1.603627	14.2866	0.096149	7.5610
Habib bank A G Zurich	1.396739	14.39	0.085078	7.5610
Habib Bank Limited	2.383471	14.46	0.188103	7.5610
Imperial Bank Limited	1.19208	14.58	0.023229	7.5610
Investment and Mortgage Bank Limited	4.457944	14.7975	0.220952	7.5610
Islamic Bank	1.853158	14.9757	0.124939	7.5610
K-REP Bank	1.603627	14.9763	0.096149	7.5610
Kenya Commercial Bank Limited	1.396739	14.7606	0.085078	7.5610
Middle East Bank (k) Limited	2.383471	14.8513	0.188103	7.5610
National bank of kenya Limited	2.360808	14.7837	0.285958	7.5610
NIC Bank limited	1.9541	14.7374	0.235803	7.5610
Oriental Commercial Bank Limited	1.078856	14.76	0.081225	7.5610
Paramount Universal Bank Limited	3.581474	14.79	0.224603	7.5610
Prime Bank Limited	4.327228	15.09	0.195681	7.5610
Southern Credit Banking Corporation Limited	1.006454	14.85	0.243782	7.5610
Standard Chartered Bank(k) Limited	1.603627	14.71	0.096149	7.5610
Transnational Bank Limited	1.19208	19.73	0.023229	6.839
Victoria Commercial Bank	4.457944	20.13	0.220952	6.839

Appendix II : List of Commercial Banks In Kenya

1	African Banking corporation limited
2	Bank of Africa limited
3	Bank of Baroda(k) limited
4	Bank of India
5	Barclays Bank of Kenya limited
6	CFC Stanbic limited
7	Chase Bank
8	Citibank N. A kenya
9	City Finance bank
10	Cooperative Bank of Kenya
11	Commercial Bank of Africa
12	Consolidated Bank of Kenya
13	Credit Bank
14	Development Bank of Kenya
15	Diamond Trust
16	Dubai Bank
17	Ecobank
18	Equatorial Commercial Bank
19	Equity Bank
20	Fidelity Commercial Bank
21	Family Bank
22	Fina Bank
23	First Community Bank
24	Guardian Bank.
25	Giro Commercial Bank
26	Gulf African Bank
27	Habib bank A G Zurich
28	Habib Bank Limited
29	Imperial Bank Limited
30	Investment and Mortgage Bank Limited
31	Islamic Bank
32	K-REP Bank
33	Kenya Commercial Bank Limited
34	Middle East Bank (k) Limited
35	National bank of kenya Limited
36	NIC Bank limited
37	Oriental Commercial Bank Limited
38	Paramount Universal Bank Limited
39	Prime Bank Limited
40	Southern Credit Banking Corporation Limited
41	Standard Chartered Bank(k) Limited

42	Transnational Bank Limited
43	Victoria Commercial Bank

Source, CBK (2012)